

1270.0.55.005 - Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure, July 2016

Latest ISSUE Released at 11:30 AM (CANBERRA TIME) 16/03/2018

Summary

Overview

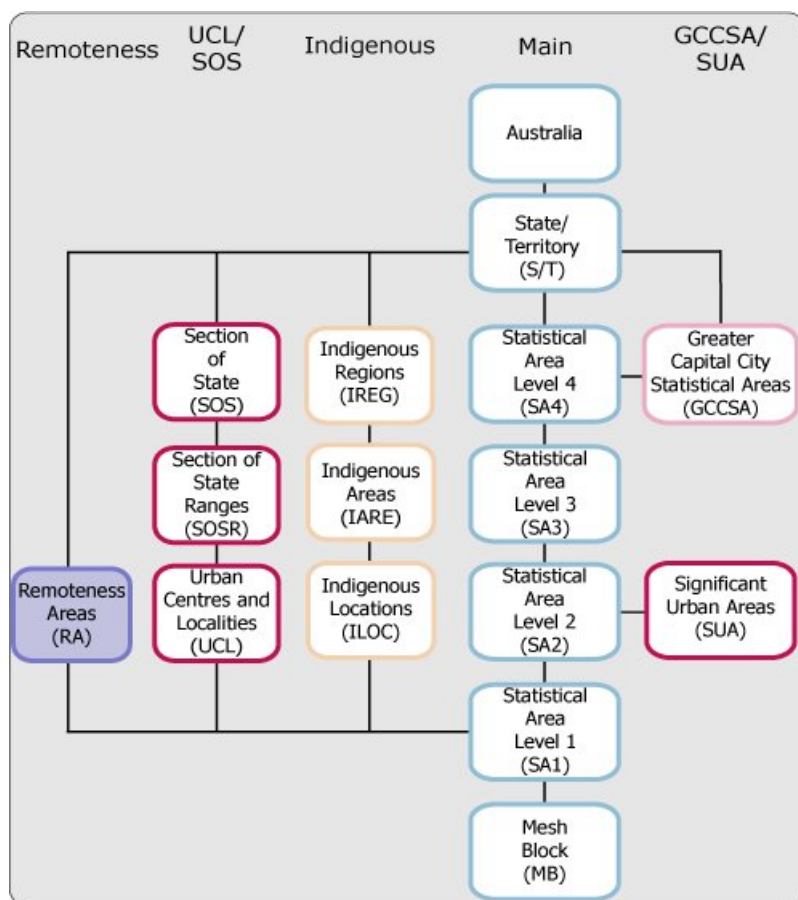
OVERVIEW

This publication updates the Remoteness Areas Structure within the Australian Statistical Geography Standard (ASGS). Remoteness Areas divide Australia into 5 classes of remoteness on the basis of a measure of relative access to services. Remoteness Areas are intended for the purpose of releasing and analysing statistical data. Access to services are measured using the Accessibility and Remoteness Index of Australia (ARIA+), produced by the Hugo Centre for Migration and Population Research at the University of Adelaide.

The ASGS provides a framework of statistical areas used by the Australian Bureau of Statistics (ABS) and other organisations, to enable the publication of statistics that are comparable and geospatially integrated. It provides users with a coherent set of standard areas that they can use to access, visualise and analyse statistics.

The ASGS is split into two parts; ABS Structures and Non ABS Structures. The ABS Structures are areas that the ABS designs specifically for outputting statistics. The Remoteness Areas are part of the ABS Structures and their relationship to other ABS statistical areas is shown in Diagram 1 below.

Diagram 1: ASGS ABS Structures



This publication is the last of five volumes that make up the 2016 ASGS. The 2016 edition of the ASGS is the second edition of the ASGS, updating the first edition released in 2011. This second edition includes changes to statistical areas to account for growth and change, it also incorporates the Territory of Norfolk Island for the first time.

Census 2016 Population counts for Remoteness Areas will be available from the Census page on the ABS website from the 27th of March 2018.

The ABS encourages the use of the ASGS by other organisations to improve the comparability and integration of statistical and other data on a common geographic basis.

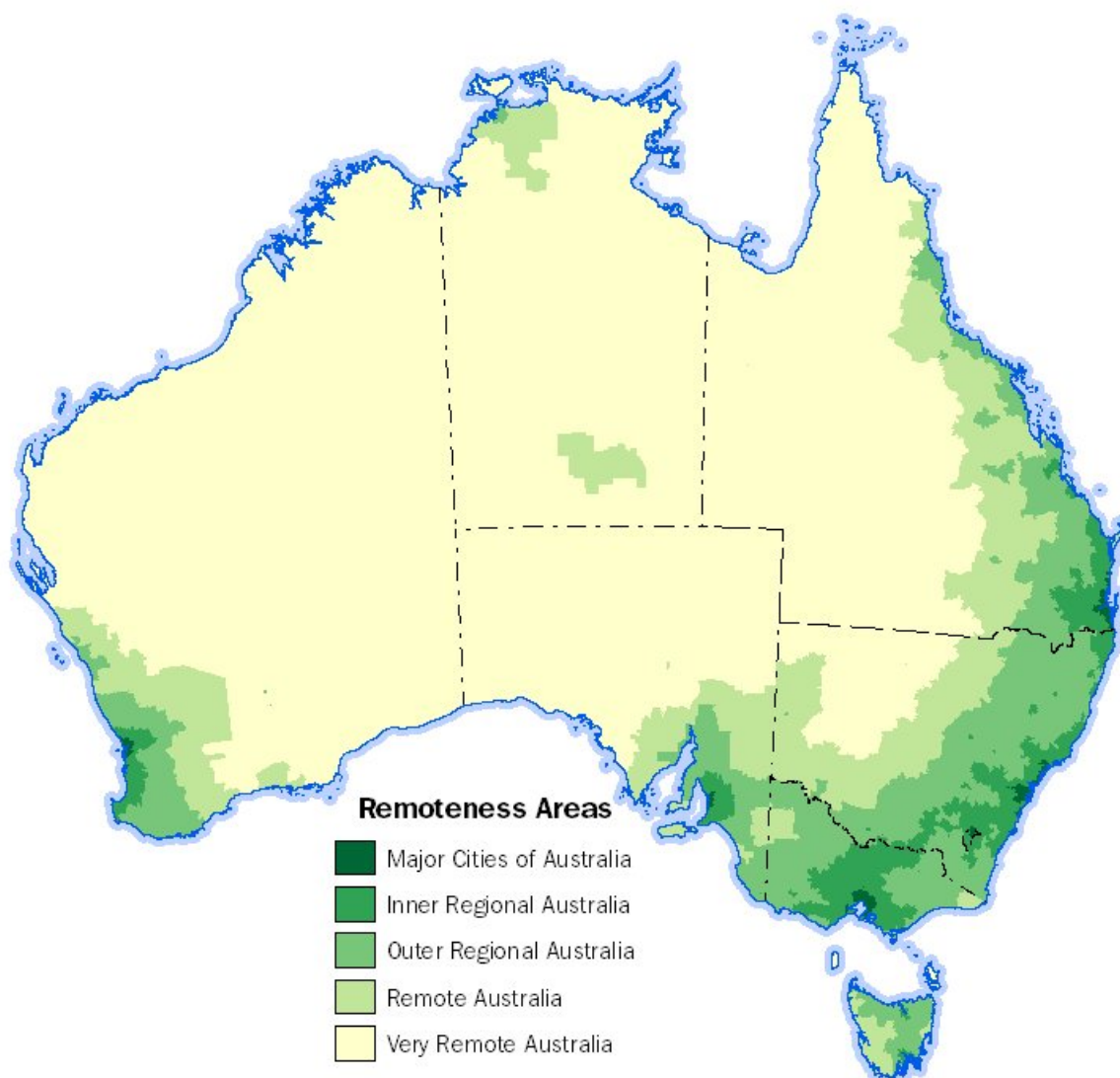
For support and further information about other volumes of the ASGS and other ABS geospatial products please refer to the ABS website at <https://www.abs.gov.au/geography>

Map of 2016 Remoteness Areas

MAP OF 2016 REMOTENESS AREAS

The 2016 Remoteness Areas are shown in Figure 1 below, and a copy of this map is available from the Downloads tab above. Users can also examine the boundaries in more detail using ABS Maps which is an interactive online mapping tool that allows users to visualise and compare the geographic boundaries from the ASGS.

Figure 1: Map of the 2016 Remoteness Areas for Australia



Related Material

RELATED MATERIAL

The following supporting material is available from the Downloads tab with this release of the Australian Statistical Geography Standard (ASGS) Remoteness Areas Structure:

- Digital boundaries for the regions described in this publication - formats include ESRI Shape files, Mapinfo Interchange Format files, Mapinfo TAB files and Open Geospatial Consortium GeoPackage files.
- ABS Geospatial Web Services User Guide
- Codes, labels and hierarchies for all the regions described in this publication in '.csv' format.
- Geographic correspondence files in '.xls' format that allow users to convert data to 2016 Remoteness Areas and understand changes from the 2011 edition. These include:
 - 2011 Remoteness Areas to 2016 Remoteness Areas
 - 2017 Postcode to 2016 Remoteness areas
 - 2017 Locality to 2016 Remoteness Areas
 - Map of the 2016 Remoteness Area
- Online mapping tool to view and compare the ASGS regions, ABS Maps

The 2016 edition of the ASGS has been released progressively since July 2016. Other than updates to Non ABS Structures, this is the final publication in the 2016 edition of the ASGS. Other ASGS publications including the supporting material such as digital boundaries, codes and labels, and geographic correspondences are available from the ABS website at <https://www.abs.gov.au/geography>

Defining Remoteness Areas

DEFINING REMOTENESS AREAS

The Australian Statistical Geography Standard (ASGS) defines Remoteness Areas into 5 classes of relative remoteness across Australia. These 5 classes of remoteness are:

- Major Cities of Australia
- Inner Regional Australia
- Outer Regional Australia
- Remote Australia
- Very Remote Australia

The five classes of remoteness are determined using a process that provides a consistent definition across Australia and over time. This allows statistical data to be classified in a consistent way that allows users to analyse changes in data for different remoteness categories over time.

Relative remoteness is measured in an objective way using the Accessibility and Remoteness Index of Australia (ARIA+), which is developed by the Hugo Centre for Migration and Population Research at the University of Adelaide. ARIA+ is derived by measuring the road distance from a point to the nearest Urban Centres and Localities in five separate population ranges. For more information on how ARIA+ is created see the University of Adelaide website at <http://www.adelaide.edu.au/hugo-centre/spatial/data/aria/>

The University of Adelaide supplies ARIA+ to the ABS as a one kilometre grid which covers all of geographic Australia. Each grid point contains a value representing its relative remoteness, this value is derived using the methodology described in the link above.

The ASGS Statistical Area Level 1 (SA1) boundaries are overlayed onto the ARIA+ grid and an average score is calculated based upon the grid points that are contained within each SA1. The resulting average score determines which remoteness category is allocated to each SA1, these categories are shown in Table 1 below. This means that Remoteness Areas aggregate to States or Territories and cover the whole of Australia without gaps or overlaps.

Table 1: 2016 Remoteness Area Category Names for Australia and SA1 Average ARIA+ Value

Remoteness Area Category	Remoteness Area Name	SA1 Average ARIA+ Value Ranges
0	Major Cities of Australia	0 to 0.2
1	Inner Regional Australia	greater than 0.2 and less than or equal to 2.4
2	Outer Regional Australia	greater than 2.4 and less than or equal to 5.92
3	Remote Australia	greater than 5.92 and less than or equal to 10.53
4	Very Remote Australia	greater than 10.53
5	Migratory - Offshore - Shipping	Not Applicable
9	No usual address	Not Applicable

Further criteria are used by the ABS to refine Remoteness Areas. These criteria are applied to remove anomalies that the index may produce and are consistent with the methodology that was applied in the delimitation of the 2006 and 2011 Remoteness Structure. These criteria are:

- A single SA1 that is not an Urban Centre and is completely surrounded by SA1s of a different remoteness category is merged into the surrounding remoteness category.
- A cluster of SA1s that make up a Locality of less than 1,000 persons that is surrounded by SA1s of a different remoteness category is merged into the surrounding remoteness category.

Note that the above rules do not apply to coastal SA1s, where all neighbouring SA1s are classed as a different remoteness category. This is because the coastal SA1s are not considered to be completely surrounded.

The Urban Centres and Localities referenced in the above criteria are defined according to the ABS publication Australian Statistical Geography Standard (ASGS) Volume 4 - Significant Urban Areas, Urban Centres and Localities, Section of State, July 2016 (cat no. 1270.0.55.004) released in October 2017.

Within each State or Territory each Remoteness Area represents an aggregation of non-contiguous geographical areas which share the common categorisation of remoteness. While statistical data classed to this structure may be available by State or Territory, characteristics of remoteness are determined in the context of Australia as a whole; consequently not all Remoteness Area categories are represented in each State or Territory, as illustrated in Table 2.

Table 2: Counts of 2016 Remoteness Areas by State and Territory

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	OT(a)
Remoteness Area (b)	7	6	7	7	7	6	5	4	4

(a) Other Territories (OT) include the Territories of Cocos (Keeling) Islands, Christmas Island, Jervis Bay and Norfolk Island.

(b) Includes records for Migratory - Offshore - Shipping and No usual address for each State and Territory.

A Remoteness Area is identifiable by a 2 digit hierarchical code. This comprises a State or Territory identifier and a Remoteness Area identifier code. A Remoteness Area identifier is only unique if it is preceded by the State or Territory identifier.

As an example the Remoteness Area naming and coding structure for New South Wales (NSW) is illustrated below in Table 3.

Table 3: Remoteness Area naming and coding structure for NSW

State or Territory Code	State or Territory Name	Remoteness Area Category	Remoteness Area Code	Remoteness Area Name
1	New South Wales	0	10	Major Cities of Australia
1	New South Wales	1	11	Inner Regional Australia
1	New South Wales	2	12	Outer Regional Australia
1	New South Wales	3	13	Remote Australia
1	New South Wales	4	14	Very Remote Australia
1	New South Wales	5	15	Migratory - Offshore - Shipping (NSW)
1	New South Wales	9	19	No usual address (NSW)

Understanding Remoteness Area Changes

The concept of remoteness is dynamic. As measured by the ARIA+ methodology it changes over time as population centres change size and road networks are improved. Because of this, each edition of Remoteness Areas will change in comparison with the previous edition. Using an objective and consistent process for classifying Remoteness Areas creates consistency between different editions of Remoteness Areas despite changes to the boundaries. This allows users to make comparisons and undertake statistical analysis on data published on Remoteness Areas over time.

Changes occur to Remoteness Areas due to one or more of the reasons listed below:

- Urban Centres and Localities can change in population. This can impact the service centre category they are allocated to in the Accessibility and Remoteness Index of Australia (ARIA+) that is used to calculate remoteness. This can affect the ARIA+ score allocated to these Urban Centres and potentially

the surrounding areas as well.

- Urban Centres and Localities can expand in size geographically. Although this may not change the service centre category in ARIA+, it changes the ARIA+ score for the growth areas of that Urban Centre and potentially the surrounding areas as well.
- Changes to road networks can impact the distances to the various sized Urban Centres used in ARIA+. This changes the ARIA+ scores allocated to areas connected by these roads.
- Changes to Statistical Area Level 1 (SA1) boundaries can impact the average ARIA+ score that is calculated for individual SA1s.

For more information on ARIA+ see <https://www.adelaide.edu.au/hugo-centre/spatial/data/aria/>

The nature of the changes between the 2011 and 2016 Remoteness Areas can be measured by looking at the 2016 Census population in areas that have changed from one Remoteness Area category to another between 2011 and 2016. This is summarised in Table 1 below.

Table 1: 2016 Census population that has changed Remoteness Areas between 2011 and 2016

From	To	2016 Population That Has Changed
Population That Has Become Less Remote Due To Changes In Remoteness Areas		
Very Remote Australia	Remote Australia	3795
Remote Australia	Outer Regional Australia	8595
Outer Regional Australia	Inner Regional Australia	57085
Inner Regional Australia	Major Cities of Australia	101194
Population That Has Become More Remote Due To Changes In Remoteness Areas		
Major Cities of Australia	Inner Regional Australia	4904
Inner Regional Australia	Outer Regional Australia	4106
Outer Regional Australia	Remote Australia	1731
Remote Australia	Very Remote Australia	10524

In general, changes to remoteness primarily result in areas becoming less remote as Urban Centres increase in size and the road network is improved. Between 2011 and 2016, Major Cities have expanded out to incorporate some areas that were previously Inner Regional, with these areas containing just over 100,000 people in 2016. There have also been a number of areas where Inner Regional areas have expanded into Outer Regional, and these areas contained around 57,000 people in 2016. Changes between Outer Regional, Remote and Very Remote areas have involved much smaller populations, which reflects the sparseness of population in these areas.

Unusually, between 2011 and 2016, some parts of the Remote category have changed to be Very Remote – an area containing around 10,000 people in 2016. This is a result of declining population in Carnarvon and Kununurra resulting in changes to their category size in the ARIA+ classification. Consequently, this has reduced the remoteness score for these towns and the surrounding areas. Other Urban Centres and Localities that have changed Remoteness Area category are shown in Table 2 below.

To understand change in Remoteness Areas in more detail users can access a geographic correspondence file between Remoteness Areas from 2011 and 2016 in the downloads tab of this publication. Boundaries of the 2011 and 2016 Remoteness Areas can be compared in detail using the online interactive mapping tool, ABS Maps.

Table 2: Urban Centres and Localities that have changed Remoteness Areas between 2011 and 2016

Urban Centre and Locality Name	State/Territory	Remoteness Area 2011	Remoteness Area 2016
Very Remote Australia to Remote Australia			
Bourke	New South Wales	Very Remote Australia	Remote Australia
Injune (L)	Queensland	Very Remote Australia	Remote Australia
Gunbalanya (Oenpelli)	Northern Territory	Very Remote Australia	Remote Australia
Remote Australia to Outer Regional Australia			
Hopetoun (L)(Vic.)	Victoria	Remote Australia	Outer Regional Australia
Cardwell	Queensland	Remote Australia	Outer Regional Australia
Nebo (L)	Queensland	Remote Australia	Outer Regional Australia
Hideaway Bay - Dingo Beach (L)	Queensland	Remote Australia	Outer Regional Australia
Duaringa (L)	Queensland	Remote Australia	Outer Regional Australia
Leeman	Western Australia	Remote Australia	Outer Regional Australia

Green Head	Western Australia	Remote Australia	Outer Regional Australia
Outer Regional Regional to Inner Regional Australia			
Uralla	New South Wales	Outer Regional Australia	Inner Regional Australia
Mount Beauty - Tawonga South	Victoria	Outer Regional Australia	Inner Regional Australia
Mortlake	Victoria	Outer Regional Australia	Inner Regional Australia
Venus Bay (L)	Victoria	Outer Regional Australia	Inner Regional Australia
Tawonga	Victoria	Outer Regional Australia	Inner Regional Australia
Murgon	Queensland	Outer Regional Australia	Inner Regional Australia
Cherbourg	Queensland	Outer Regional Australia	Inner Regional Australia
Yarraman	Queensland	Outer Regional Australia	Inner Regional Australia
Erakala	Queensland	Outer Regional Australia	Inner Regional Australia
Farleigh	Queensland	Outer Regional Australia	Inner Regional Australia
Mount Gambier	South Australia	Outer Regional Australia	Inner Regional Australia
Clare	South Australia	Outer Regional Australia	Inner Regional Australia
Saddleworth (L)	South Australia	Outer Regional Australia	Inner Regional Australia
Latrobe	Tasmania	Outer Regional Australia	Inner Regional Australia
Richmond (L)(Tas.)	Tasmania	Outer Regional Australia	Inner Regional Australia
Inner Regional Australia to Major Cities of Australia			
Murwillumbah	New South Wales	Inner Regional Australia	Major Cities of Australia
Wallacia	New South Wales	Inner Regional Australia	Major Cities of Australia
Mulgoa (L)	New South Wales	Inner Regional Australia	Major Cities of Australia
Manangle (L)	New South Wales	Inner Regional Australia	Major Cities of Australia
Bacchus Marsh	Victoria	Inner Regional Australia	Major Cities of Australia
Beveridge	Victoria	Inner Regional Australia	Major Cities of Australia
Gembrook	Victoria	Inner Regional Australia	Major Cities of Australia
Rockbank	Victoria	Inner Regional Australia	Major Cities of Australia
Hopetoun Park (L)	Victoria	Inner Regional Australia	Major Cities of Australia
Yarrabilba	Queensland	Inner Regional Australia	Major Cities of Australia
Kiels Mountain (L)	Queensland	Inner Regional Australia	Major Cities of Australia
Willunga	South Australia	Inner Regional Australia	Major Cities of Australia
Yanchep	Western Australia	Inner Regional Australia	Major Cities of Australia
Herne Hill (L)	Western Australia	Inner Regional Australia	Major Cities of Australia
Major Cities of Australia to Inner Regional Australia			
One Tree Hill (L)	South Australia	Major Cities of Australia	Inner Regional Australia
Inner Regional Australia to Outer Regional Australia			
Crescent Head (L)	New South Wales	Inner Regional Australia	Outer Regional Australia
Repton (L)	New South Wales	Inner Regional Australia	Outer Regional Australia
Port Wakefield (L)	South Australia	Inner Regional Australia	Outer Regional Australia
Outer Regional Australia to Remote Australia			
Dunwich (L)	Queensland	Outer Regional Australia	Remote Australia
Glenden (L)	Queensland	Outer Regional Australia	Remote Australia
Remote Australia to Very Remote Australia			
Carnarvon	Western Australia	Remote Australia	Very Remote Australia
Kununurra	Western Australia	Remote Australia	Very Remote Australia
Other Changes			
Norfolk Island (L)	Other Territories	Not Included	Very Remote Australia

About this Release

The Australian Statistical Geography Standard (ASGS) provides users with an integrated set of standard regions that they can use to analyse and integrate statistics produced by the ABS and other organisations.

Volume 5 outlines the Remoteness Areas (RA) Structure of the ASGS. The Remoteness Areas divide Australia into five classes of remoteness on the basis of relative access to services. Access to services is measured using the Accessibility and Remoteness Index of Australia (ARIA+), provided by the Hugo Centre for Migration and Population Research at the University of Adelaide. Remoteness Areas are built from Statistical Area Level 1 (SA1) and aggregate to States and Territories (S/Ts) so that they cover all of Australia without gaps or overlaps.

These areas are redefined every five years and data from the Census of Population and Housing as well as other survey data are released on the Remoteness Areas.

Explanatory Notes

Metadata for Digital Boundary Files

METADATA FOR DIGITAL BOUNDARY FILES

Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Structure (cat no. 1270.0.55.005)

Date of Publication/ Date Stamp : 16 March 2018

Presentation Format: Digital boundaries

CUSTODIAN

Custodian: Australian Bureau of Statistics (ABS)

DESCRIPTION

Abstract:

The Australian Statistical Geography Standard (ASGS) brings together in one framework all of the regions which the ABS and many others organisations use to collect, release and analyse geographically classified statistics. The ASGS ensures that these statistics are comparable and geospatially integrated and provides users with an coherent set of standard regions so that they can access, visualise, analyse and understand statistics. The 2016 ASGS will be used for the 2016 Census of Population and Housing and progressively introduced into other ABS data collections. The ABS encourages the use of the ASGS by other organisations to improve the comparability and usefulness of statistics generally, and in analysis and visualisation of statistical and other data.

This publication, **Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Structure** (cat no. 1270.0.55.005) contains several elements including the ASGS manual, allocation table and the digital boundaries current for the ASGS Edition 2016 (date of effect 1 July 2016).

The digital boundaries for Volume 5 of the ASGS represent the 2016 Remoteness Areas (RAs).

File Nomenclature:

File names have the format RA_2016_AUST where:

< RA> represents Remoteness Areas, the type of boundaries in each file

< 2016> represents 2016 the year of the Australian Statistical Geography Standard (ASGS) Edition

< AUST> indicates the data covers all of Australia as defined in the ASGS manual

Within the files, the States and Territories are identified by unique one digit codes.

State and Territory Codes and Names

Code	S/T
1	New South Wales
2	Victoria
3	Queensland
4	South Australia
5	Western Australia
6	Tasmania
7	Northern Territory
8	Australian Capital Territory
9	Other Territories

File Attributes:

All tables show file type, file name, spatial unit field and the data type.

File Type: Remoteness Area (RA)

File Name (s): RA_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI .shp)	Data Type	Length
1	RA_CODE_2016	RA_CODE16	Character	2
2	RA_NAME_2016	RA_NAME16	Character	50
3	STATE_CODE_2016	STE_CODE16	Character	1
4	STATE_NAME_2016	STE_NAME16	Character	50
5	AREA_ALBERS_SQKM	AREASQKM16	Float	

XML METADATA FILE

The compressed download files include geospatial metadata data for each region type in Extensible Markup Language (XML) format. The geospatial metadata conforms to International Organisation for Standardization (ISO) geospatial metadata standard, ISO 19115:2003, and the associated XML implementation schema specified by ISO 19139:2012.

DATA CURRENCY

Date of Effect: 16 March 2018

DATASET STATUS

Progress: Completed dataset

Maintenance and Update Frequency: No further updates for these boundaries are planned. The ASGS will be revised in 2021.

ACCESS**Stored Data Format:**

Digital as a file for the RA level of the ASGS 2016.

Available Format:

The digital boundary files are in MapInfo TAB format (.TAB), MapInfo Interchange Format (.MID .MIF), Geopackage and ESRI Shapefile (.shp) format.

Spatial Representation Type:

Vector

Access Constraints:

Copyright Commonwealth of Australia administered by the ABS. Unless otherwise noted, content is licensed under a Creative Commons Attribution 2.5 Australia licence.

Datum:

Geocentric Datum of Australia 1994 (GDA94)

The digital boundary files have the datum specified as 116 (GDA94). Users of MapInfo 6.0 or later are able to load data sets based on GDA94 directly, without transformation. Earlier versions of MapInfo cannot interpret GDA94

correctly and there may be alignment problems between data sets based on this datum and other earlier datums.

Projection:

Geographical (i.e. Latitudes and Longitudes)

Geographic Extent:

Geographic Australia.

Extent - Geographic Bounding Box:

North Bounding Latitude: -8
South Bounding Latitude: -45
West Bounding Latitude: 96
East Bounding Latitude: 169

DATA QUALITY

Lineage:

Mesh Block boundaries were created using various sources including the PSMA digital datasets and ABS boundaries, zoning information from state planning agencies and imagery.

Positional Accuracy:

Positional accuracy is an assessment of the closeness of the location of the spatial objects in relation to their true positions on the earth's surface.

The positional accuracy includes:

- a horizontal accuracy assessment
- a vertical accuracy assessment

Positional accuracy for ABS boundaries is dependent on the accuracy of the features they have been aligned to. ABS boundaries are aligned to a number of layers supplied by PSMA with an accuracy of +/-50 mm. PSMA layers and their positional accuracy are as follows:

- Transport and Topography

+/- 2 meters in urban areas and +/- 10 meters in rural and remote areas

- CadLite

+/- 2 meters in urban areas and +/- 10 meters in rural and remote areas

- Administrative Boundaries

Derived from the cadastre data from each Australian State and Territory jurisdiction.

- Greenspace and Hydrology

90% of well-defined features are within 1mm (at plot scale) of their true position, eg 1:500 equates to +/- 0.5metre and 1:25,000 equates to +/- 25 metres. Relative spatial accuracy of these themes reflects that of the jurisdictional source data. The accuracy is +/- 2 metres in urban areas and +/- 10 metres in rural and remote areas. No "shift" of data as a means of "cartographic enhancement" to facilitate presentation has been employed for any real world feature.

Attribute Accuracy:

All codes and labels for the 2016 Remoteness Structure are fully validated.

Logical Consistency:

Regions are closed polygons. Attribute records without spatial objects have been included in the data for

administrative purposes.

Completeness:

All geographic levels of the 2016 Remoteness Structure are represented.

CONTACT INFORMATION

Contact Organisation: Australian Bureau of Statistics

Contact: For further information email <client.services@abs.gov.au> or contact the National Information and Referral Service (NIRS) on 1300 135 070.

Information about CSV Files

INFORMATION ABOUT CSV FILES

The product **Australian Statistical Geography Standard (ASGS) Volume 5 – Remoteness Structure** (cat no. 1270.0.55.005) contains a comma-separated (.csv) file. This file lists the codes, labels and hierarchies for the regions within the Remoteness Structure.

The .csv file is located in the Downloads Tab of this publication.

FILE CONTENT

RA_2016_AUST.csv contains the following fields:

- MB_CODE_2016
- SA1_MAINCODE_2016
- SA1_7DIGITCODE_2016
- RA_CODE_2016
- RA_NAME_2016
- STATE_CODE_2016
- STATE_NAME_2016
- AREA_ALBERS_SQKM

This file may be used to determine how the Mesh Blocks and Statistical Area Level 1 (SA1s) aggregate to Remoteness Areas and State and Territory.

Abbreviations

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ARIA+	Accessibility and Remoteness Index of Australia
ASGS	Australian Statistical Geography Standard
GCCSA	Greater Capital City Statistical Area
IARE	Indigenous Area
ILOC	Indigenous Location
IREG	Indigenous Region
MB	Mesh Block
NSW	New South Wales
NT	Northern Territory
OT	Other Territories
Qld	Queensland
RA	Remoteness Area
SA	South Australia
SA1	Statistical Area Level 1
SA2	Statistical Area Level 2

SA3	Statistical Area Level 3
SA4	Statistical Area Level 4
SOS	Section of State
SOSR	Section of State Range
S/T	State or Territory
SUA	Significant Urban Area
Tas.	Tasmania
UCL	Urban Centre and Locality
Vic.	Victoria
WA	Western Australia

© Commonwealth of Australia

All data and other material produced by the Australian Bureau of Statistics (ABS) constitutes Commonwealth copyright administered by the ABS. The ABS reserves the right to set out the terms and conditions for the use of such material. Unless otherwise noted, all material on this website - except the ABS logo, the Commonwealth Coat of Arms, and any material protected by a trade mark - is licensed under a Creative Commons Attribution 2.5 Australia licence